

EXTENDABLE COVER FOR A GOLF CART

5 CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priority to U.S. Application No. 10/080,270 and provisional application 60/433,110.

FIELD OF THE INVENTION

10 The invention relates generally to golfing accessories, and relates more particularly to a protective attachment for a golf cart.

BACKGROUND OF THE INVENTION

Golfing is a popular pastime for many people of all ages. Golfers 15 occasionally use a motorized golf cart to transport their golf equipment while playing golf. Many golf carts include a rear compartment into which a golf bag and clubs can be positioned during the use of a cart. Commonly, the rear compartment is uncovered, even if the cart includes a top section for covering the seating compartment of the cart. Hence, the golf bag and clubs positioned in the rear 20 compartment of the cart are unprotected from weather, elements, or precipitation, such as rainfall. A golfer's grip on his clubs, and his game, can be adversely affected if the grips of his clubs become wet. Thus, it is desirable to protect a golfer's bag and

clubs from weather precipitation while the bag and clubs are positioned in the rear compartment of the golf cart.

At least one type of cover attaches to conventional golf carts and provides protection to a golf bag and clubs positioned in a rear compartment of the

5 golf cart. However, a user's access to other accessories in the rear compartment of the golf cart can be hindered by the positioning of the cover with respect to the cart. Thus, there is a need in the art for a golf cart cover that does not interfere with a user's access to the rear compartment of the cart, yet provides a cover for the rear compartment.

10 Yet another type of cover attaches directly to the roof of a golf cart. Unfortunately, this type of cover tends to sway back and forth relative to the golf cart, and has relatively little structural support. The movement of the golf cart, combined with occasional or steady winds, causes this type of cover to vibrate and shake, causing unpleasant noise, vibration, or otherwise potentially damaging clubs or

15 other accessories carried in the rear compartment of the golf cart. Therefore, there is a need in the art to provide an attachment to a golf cart that has improved structural support.

In addition, it is preferable that the cover be easily and conveniently retrofitted to any conventional golf cart, or any newly designed golf cart. There is a
20 need in the art to be certain that a suitable cover attachment is provided for many various golf cart designs. Further, as new cart models are devised, it is preferable that the cover be readily adapted to such new models.

SUMMARY OF THE INVENTION

The present invention meets the above-described needs in the art. The invention provides a cover device and method that does not interfere with a user's access to the rear compartment of the cart, yet provides a complete cover for the cart's rear compartment. Furthermore, the invention also provides an attachment to a golf cart that has improved structural support. Finally, the invention attaches to the golf cart at the upper portion of the rear support frame and at the roof near the hand grip support handles, thus accommodating attachment to many golf cart designs or structures.

Generally described, the present invention is an apparatus for covering the rear portion of a golf cart. The apparatus is configured for attachment to a support frame of a golf cart, wherein the support frame supports a roof top for the golf cart. The apparatus includes a stationary main frame member, brackets for mounting the stationary main frame member to the golf cart, a movable frame member, and a cover. The stationary main frame member is suitable for receipt by the brackets, which are in turn mounted to the upper portion of the support frame and possibly to the roof of the golf cart. The movable frame member is operatively secured to the stationary main frame member, and configured to pivotably rotate over a portion of the rear compartment of the golf cart. The cover is configured for attachment to the movable frame member so that when the movable frame member rotates over a portion of the

rear compartment of the golf cart, the cover covers a portion of the rear compartment of the golf cart.

More particularly described, the invention includes a stationary main frame connected to the golf cart by at least one bracket. The brackets preferably attach to the golf cart in two places- at the upper portion of the rear support frame and to the roof of the golf cart. The stationary main frame preferably defines a U-shape assembly with a pair of arm tubes and a connecting tube between the arm tubes. The stationary main frame tubes may be formed integrally or as separate pieces. The stationary frame connecting tube is attached to the golf cart by means of the brackets.

5 The pair of stationary frame arms preferably extend downwardly of the connecting tube. A movable frame connects to the stationary main frame. The movable frame includes a U-shape piece with two arm bars. At least one arm of the movable frame connects to the stationary main frame. A connecting portion of the movable frame preferably connects the two arms so that the movable frame pivots away from the stationary main frame to support a cover. The stationary main frame may include a cover retainer strip. The cover retainer strip includes an elongate strip, and a channel recess extending along a portion of the elongate strip. The cover connects to the cover retainer strip. The cover extends from the channel recess and over the movable frame when the movable frame is rotated over a portion of the rear compartment of

10 the golf cart.

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In one aspect of the invention, the invention is a method for covering a rear compartment of a golf cart having a support frame to support a molded plastic

top over the golf cart. The method includes mounting a stationary main frame member to brackets which are attached to the golf cart at two locations- one near the upper portion of the rear support members and the other on the roof near the hand grip support handles. Next, the method includes mounting a movable frame member

5 to the stationary main frame member, the movable frame member configured to pivot toward the rear compartment of the golf cart. Finally, the method includes extending a flexible cover about the movable frame member so that when the movable frame member is moved, a portion of the flexible cover is extended from a first unopened position to a second covered position.

10 In yet another aspect of the invention, the invention includes a method for extending a cover from the upper portion of a golf cart. The method includes moving a movable frame member that is pivotably secured to a stationary main frame member. The movable frame depends from and pivots from a point that is below the uppermost portion of the movable frame. The movable frame defines a first 15 unopened position and a second open position. In the unopened position, the movable frame is preferably collapsed. In the opened position, the movable frame is extended from the upper portion of the golf cart. Thus, the cover may be extended in any direction to protect either the golfer or the golfer's equipment or any part of the golf cart. The stationary main frame member is configured to mount to brackets which are 20 attached to the golf cart at the upper rear portion of the rear support frame and the roof near the hand grip support handles, and the movable frame member is configured to cover a portion of the rear compartment of the golf cart.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded perspective view of a golf cart cover device in accordance with the present invention, including a preferred stationary main frame member, a preferred movable frame member, a preferred cover and preferred brackets.

FIG. 2 is a side cut-away view showing an embodiment of the invention connected to the support frame and roof of a golf cart.

FIG. 3 is a perspective view showing a bracket.

FIG. 4 is a side view of the stationary main frame member.

FIG. 5 is a perspective view showing the stationary main frame member.

FIG. 6 is a rear view of the embodiment shown in FIG. 2.

FIG. 7 is a side view of the embodiment shown in FIG. 2.

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DETAILED DESCRIPTION OF DISCLOSED EMBODIMENTS

The invention provides an extendable golf cart cover device and method. When used to cover the rear compartment of a conventional golf cart, the device does not interfere with a user's access to the rear compartment of the cart, yet 20 provides a cover for the rear compartment. Furthermore, the invention provides an attachment to a golf cart that has improved structural support. Finally, the invention

accommodates a attachment of a golf cart cover to many different design models of golf carts.

Turning now to the drawings in greater detail, where numerals represent detailed features of the invention, FIG. 1 illustrates an exploded perspective view of the stationary main frame **20** the movable frame **22** and a cover **24**. FIG. 2 illustrates a cut-away view of a motorized golf cart molded plastic roof **5** and a perspective view of invention **10** that can be connected to an upper portion of a rear support frame member **12** and the roof **5** near the hand grip support handles **15**.

The rear support frame **12** of the motorized golf cart includes two vertical arms **16a,b** which aid in the support of the molded plastic roof **5**. The invention **10** is a cover for the rear bag compartment of a motorized golf cart that includes a stationary main frame **20**, a movable frame **22**, and a cover **24**. The stationary main frame **20** connects to the upper portion of a rear support frame **12** and the roof near the hand grip support handles **15** of the motorized golf cart by the use of two brackets **25**. The cover **24** connects to the movable frame **22**, and the movable frame **22** connects to the stationary main frame **20** so that both the movable frame **22** and cover **24** can pivot with respect to the stationary main frame **20** and the motorized golf cart.

A stationary main frame **20** can be a square-“U-shaped” frame made from approximately 1” square iron, aluminum or similar type of metal tubing. The stationary main frame **20** includes a pair of arm tubes **26a,b** and a connecting tube **28** disposed between the arm tubes **26a,b**. The connecting tube **28** is substantially

straight along its length. Typically, the connecting tube **28** is oriented in a substantially horizontal position, and is substantially parallel with the top horizontal portions **18a,b** of the rear support frame **12**. When the connecting tube **28** is oriented in such fashion, the arm tubes **26a,b** extend downward from each end of the 5 connecting tube **28** so that the arm tubes **26a,b** are oriented substantially parallel with, but not connected with, the vertical arms **16a,b** of the rear support frame **12**. The connecting tube **28** is then connected to the brackets **25** near the end of the brackets **25** where they attach to the upper portion of the rear support frame. **12**. Holes are machined through the brackets **25** at either end. Holes are machined through the 10 upper horizontal portion of the rear support frame **12** and the roof **5** near the hand grip support handles **15** so that mounting bolts or hardware can secure the brackets to the golf cart. In addition to these holes for connecting the brackets to the golf cart, holes are also machined through the brackets **25** near the end where the bracket **25** connects to the upper portion of the rear support frame **12**. Similar holes are machined through 15 the connecting tube **28** so that mounting bolts or hardware can secure the connecting tube **28** to the brackets **25**. When the connecting tube **28** is secured to the brackets **25**, the stationary main frame **20** remains in a relatively fixed position with the respect to the rear support frame **12**. In this manner, the stationary main frame **20** is connected to the brackets **25** which are connected only to the upper portion of the rear 20 support frame **12** and the hand grip support handles **15**. The stationary main frame **20** is not connected in any manner to the vertical arms **16a,b** of the rear support frame **12**.

The movable frame **22** includes two arm bars **30a,b** and a connecting bar **32** disposed between each arm bar **30a,b**. Each arm bar **30a,b** is substantially straight along its length. The connecting bar **32** is substantially straight along its length. Typically, the connecting bar **32** is oriented in a substantially horizontal position, and is substantially parallel with the connecting tube **28** of the stationary main frame **20**. When the connecting bar **32** is oriented in such fashion, the arm bars **30a,b** extend away from opposing ends of the connecting bar **32** so that each arm bar **30a,b** can pivotably connect with an open end of a corresponding arm tube **26a,b**. The arm bars **30a,b** can then be connected to the stationary main frame **20**. Holes machined through the open ends of the arm bars **30a,b** and through the open ends of the corresponding arm tubes **26a,b** are sized for connecting bolts or hardware to pivotably connect the arm bars **30a,b** to a corresponding arm tube **26a,b**. When the arm bars **30a,b** are secured to the arm tubes **26a,b**, the movable frame **22** can pivot with respect to the stationary main frame **20**.

The cover **24** can be made of collapsible or flexible material such as plastic, vinyl, canvas, or other similar types of material. The cover **24** includes a cover retainer bar **34** along one edge of the cover **24** that can be used to support the cover **24** in a position relative to the stationary main frame **20**. For example, the cover **24** can be stretched between the connecting tube **28** and the movable frame **22** so that at least one portion of the cover **24** remains stationary with respect to the stationary main frame **20**, and another portion of the cover **24** can pivot or move

concurrently with the movable frame **22** when the movable frame **22** pivots with respect to the stationary main frame **20**.

Typically, the cover **24** is made from canvas panels and has a clear plastic window in one or more of the canvas panels. For example, the cover **24** can

5 be a four-panel, box-shaped cover with a clear plastic window in the rear panel. The box-shaped cover includes a cover retainer bar **34**, a top panel **36** connected to a rear panel **38**, and a left side panel **40** and right side panel **42**, both connected to the top panel **36** and rear panel **38**. The side **44** of the top panel **36** that is not connected to an adjacent panel **38, 40, 42** incorporates a cover retainer bar **34** that can be connected to or

10 stitched within the unconnected side **44** of the top panel **36**. A cover retainer bar **34** can be a round plastic cord that is approximately 3/8" diameter. The box-shaped cover is fit over the movable frame **22**, with the cover retainer bar **34** of the top panel **36** operable to connect to the stationary main frame **20**. Since the box-shaped cover is manufactured from a fabric-type material, the cover **24** remains flexible when the

15 movable frame **22** pivots with respect to the stationary main frame **20**.

The invention **10** can also include a cover retainer strip **46** connected to the stationary main frame **20**. Typically, the cover retainer strip **46** is a piece of flat corner bar with a recess **48** machined into the length of the bar. The cover retainer strip **46** is substantially straight along its length. The recess **48** which is typically a

20 "C-shaped" channel is sized to receive the corresponding cover retainer bar **34** along the unconnected side **44** of the top panel **36** of the cover **24**.

When the cover retainer strip 46 is positioned substantially horizontal and parallel with the connecting tube 28 of the stationary main frame 20, the cover retainer strip 46 can be connected to the connecting tube 28. Conventional bolts or other connectors can be used to connect the strip 46 to the connecting tube 28. When 5 the cover retainer strip 46 is secured to the connecting tube 28, the recess 48 is oriented towards the movable frame 22 and the cover 24. The cover retainer strip 46 and cover retainer bar 34 cooperate to support the cover 24 from the recess 48. When the cover retainer bar 34 is inserted into and along the length of the recess 48, the cover retainer bar 34 and adjacent cover 24 are held securely against the cover 10 retainer strip 46. Other configurations of the cover retainer strip 46, the cover retainer bar 34, and the recess 48 exist to connect the cover 24 to the cover retainer strip 46.

Note that the cover 24 can also include Velcro™ straps (not shown) or other similar types of straps or tie downs to further secure the cover 24 to the cover retainer strip 46 in a non-operation upright position, the stationary main frame 20, or 15 to the top portion of the rear support frame 12. Velcro™ straps can be connected to the top panel of the cover 24, and can be wrapped around the cover retainer strip 46, the stationary main frame 20, or the top portion of the rear support frame 12 to support the cover 24 in a position relative to the stationary main frame 20.

Initially, when the invention 10 is not in use, the movable frame 22 can 20 be pivoted upward so that the connecting bar 32 of the movable frame 22 is adjacent to the connecting tube 28 of the stationary main frame 20. Thus, when the invention 10 is not in use, the cover 24 is not deployed over the rear compartment of the golf

cart, and when positioned in the non-operative upright position, allows a user such as a golfer to access the rear bag compartment of the golf cart.

When the movable frame **22** is pivoted downward from the upper portion of the rear support frame **12** of the golf cart, the cover **24** cooperates with the movable frame **22** and extends downward and over the rear compartment of the golf cart. Typically, the shape or design of the cover **24** limits the downward movement of the movable frame **22** to the intersection between the top panel **36** and the rear panel **38** of the cover **24**. Thus, when deployed, the cover **24** provides protection from the weather and elements for objects such as golf clubs and golf bags stored in the rear compartment of the golf cart. A user such as a person sitting in the front portion of the golf cart can still access the rear compartment of the golf cart even when the framed rear bag cover **10** is in a deployed position.

FIG. 3 illustrates a perspective view of a bracket. One end of the bracket **25** is shaped so that it wraps around the upper portion of the rear support frame **12**. When secured to the golf cart, one end of the bracket **25** is secured to the upper portion of the rear support frame **12**. The bracket **25** extends out towards the rear of the motorized golf cart and then bends towards the exterior of the golf cart to a point at which it has extended past the rear support frame **12**. The bracket **5** then extends towards the exterior of the golf cart. This section of the bracket contains the holes for the mounting to the stationary main frame **20**. At a point at which this portion of the bracket **25** is longer than the width of the rear support frame **12**, the bracket **25** bends again and extends towards the front of the golf cart. The bracket **25**

extends until it reaches the point at the roof **5** near the hand support grip handles **15**.

This end of the bracket **25** contains a hole to allow the bracket **25** to be secured to the roof **5** near the hand support grip handles **15**.

FIG. 4 illustrates a side view of a stationary main frame. From this view, the recess **48** which is machined into the cover retainer strip **46** can more easily be seen. FIG. 5 illustrates a perspective view of a stationary main frame **20**. The stationary main frame **20** has machine drilled holes for mounting the stationary main frame **20** to the brackets **25**. FIG. 6 illustrates a rear view of the embodiment shown in FIG. 2. FIG. 7 illustrates a side view of the embodiment shown in FIG. 2.

10 Alternative embodiments will become apparent to those skilled in the art to which the invention pertains without departing from its spirit and scope.